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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,425	07/20/2001	James V. Tietz	55579USA2B	4868

32692 7590 03/21/2006

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EXAMINER
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SHAKERI, HADI

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/910,425	TIETZ, JAMES V.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hadi Shakeri	3723	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - a. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

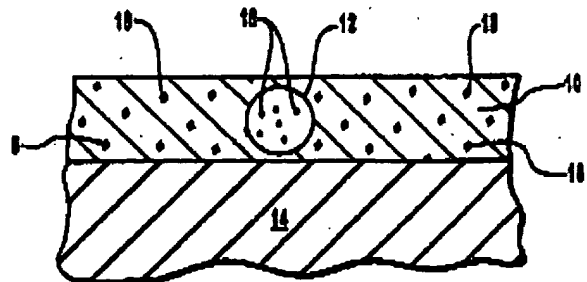
Claim 11 is indefinite for being directed to an embodiment (Fig. 4) not covered by the parent claim, rendering the scope unascertainable.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1, 3-9, 11-18 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over either AAPA or Gagne (5,243,790) in view of Robinson et al. (5,733,176).

Either AAPA or Gagne meets all of the limitations of claims 1 and 17, i.e., fixed abrasive articles for polishing wafers comprising textured three-dimensional abrasive composites including abrasive elements dispersed in a binder, except for comprising a mechanical wear indicator positioned between abrasive composites or contained in a lower



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portion of at least one of the abrasive composite elements. Robinson et al. teaches a detectable and/or automated means of announcing the worn abrasive polishing pad's end point during a chemical mechanical polishing operation. Robinson et al. also teaches that the positioning and placement of the one or more voids can be optimized to facilitate a calculation as to the remaining useable life of the pad (03:25-27). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of either AAPA or Gagne with the detectable and/or automated means as taught by Robinson et al. and to position it on a lower portion (also disclosed by Robinson et al, e.g., Fig. 1) to indicate the pad's end point and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Note that, positioning the indicator on a bottom portion of the elements is considered not only disclosed by the teaching reference (e.g., Fig. 1) but also explicitly suggested (03:25-27) for optimization to read over claim 13, since modification with regards to optimization is considered obvious to one of ordinary skill in the art. Gagne teaches a visible marking for determining the wear, however, modifying the invention in view of Robinson et al. with audible (chirping), visual (die), automated (e.g., friction reduction lubricant) to reduce errors would be well within the knowledge of one of ordinary skill in the art.

Regarding claims 3-9, 12-18, combined references as applied (AAPA or Gagne as modified by Robinson et al.) meets the limitations, i.e., composite abrasive elements being erodable, cylindrical posts (Gagne does not disclose cylindrical posts, however, modification with regards to shape, lacking criticality for the specific shape, would be obvious to one of ordinary skill in the art, since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954),

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precisely-shaped, all disclosed by the base references and the indicator to be visible material, comprising colored marker or dye and positioned within the element in the lower 10% by the teaching reference as indicated above with regards to positioning in optimizing the effect.

With regards to claim 11, as best understood, as indicated above, positioning the wear indicator as taught by Robinson et al. for optimum effect depending on the intended use and/or operational parameters is obvious to one of ordinary skill in the art.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Response to Arguments***

6. Applicant's arguments with filed on 12/05/05 have been considered but are persuasive.

Applicant argument that there is no motivation to combine the reference, much less in the manner as recited in the claims, is not persuasive, since claims recite for the indicator to be either between the elements or contained in a bottom portion, which is broad enough to cover just about any location, except a top portion as in Gagne.

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In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the base reference, AAPA, teaches all the limitations but for the indicator, which is the hole point of invention with regards to the teaching reference, i.e., visual or audible diagnostic resulting from the breaching of voids to help in controlling the polishing operation and thus increase yield (e.g., Abstract).

With regards to the base reference, Gagne, enhancing the marker as disclosed by Gagne with the audible or visual (e.g., die) and/or automated halting of the operation or reduction in torque (release of lubricant) contained in a bottom portion of the abrasive elements as taught by Robinson et al. by eliminating or reducing errors, would be obvious in view of the teaching reference. It is also noted that Robinson et al. teaches a fixed abrasive pad in which the fixed abrasive within the binder in the pad may have a variety of preferred configuration, thus modifying the base references as indicated above in view of Robinson et al. is considered obvious to one of ordinary skill in the art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Hadi Shakeri', with a stylized flourish extending to the right.

Hadi Shakeri  
Primary Examiner  
Art Unit 3723  
March 18, 2006